59(Amended).   The method according to claim 58, further comprising the additional step of:

[c)] d) re-processing sample windows in the sample stream which contained the decoded watermark.

60(Amended).   The method according to claim 59, further comprising the step of:

[d)] e) computing a secure one way hash function of the carrier signal data in said sample windows, wherein said hash function is insensitive to changes introduced into the carrier signal for the purpose of carrying digital watermark information.

61(Amended).   The method according to claim 60, further comprising the step of:

[e)] f) comparing the computed hash value to the value contained in the watermark.

REMARKS

1.   Substitute Specification

Examiner has requested a substitute specification because the quality of the specification's print is "poor."   A better quality copy of the originally filed specification is included. Please note that this photocopy does not include the preliminary amendments made to the specification as described in the Preliminary Amendment dated July 23, 1997. If desired, Applicant can produce another copy of the specification with the amendments made by hand.

2.   Rejection under 35 USC § 112

Examiner rejects claims 46-49 under 35 USC § 112 as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 46-49 have been amended to better describe the claimed invention.

3.   Rejection under 35 USC § 102

Examiner rejects claims 25, 28, 29, 32, 33 ,35, 38 and 39 under 35 USC § 102 as being anticipated by U.S. Patent No. 5,530,759 to Braudaway et al. ("Braudaway"). Applicant has amended claims 25 and 29 to more clearly describe the claimed invention. Applicant respectfully submits that claim 25 as amended, and claims 28 and 39 which depend from claim 25, are patentable for at least the reason that Braudaway does not disclose the step of using a random key to encode a digital watermark into a carrier signal. Further, Applicant respectfully submits that claim 29 as amended, and claims 32, 33 ,35, and 38, which depend from claim 29, are patentable for at least the reason that Braudaway does not disclose the step of using a random key to decode a digital watermark from a carrier signal.

Braudaway discloses the use of a random noise component that affects the graininess of a "watermark" image:

> "In block 208 a random noise component RN is determined. The random noise component is calculated as a function of the linear brightness Y of the original image pixel, a noise intensity value (NI) (which is selected by a user as an input to the watermarking program) and a random number (which is generated by the computer in block 209). ... [A] larger NI fraction will make the noise adjustments more significant, producing a watermark which is grainier but more difficult to remove."

Braudaway, Col. 5, Lines 40-55. In particular, as indicated by the Examiner, Braudaway provides that "the noise component may be based on an element of a reproducible

(ciphered) random sequence, or a noise sequence created by a ciphered key, rather than a random number; in this case, a system for removing the watermark if the watermark image and the cipher key are provided could be designed." Col. 7, Lines 20-25 (emphasis added).

Braudaway does not disclose, however, the step of using a random key to encode a digital watermark into a carrier signal. For at least this reason, Applicant respectfully requests the Examiner to withdraw the 102 rejection of claims 25, 28 and 39. Similarly, Braudaway does not disclose the step of using a random key to decode a digital watermark from a carrier signal. For at least this reason, Applicant respectfully requests the Examiner to withdraw the 102 rejection of claims 29, 32, 33 ,35, and 38.

4. Rejection under 35 USC § 103

a) Reliance on Schneier

Examiner rejects claims 25, 29, 33, 35, 40-43, and 46-48 under 35 USC § 103 as being unpatentable over Schneier (*Applied Cyptography*, 1994). Applicant has amended claims 25 and 29 to more clearly describe the claimed invention. Applicant respectfully submits that claim 25 as amended, and claims 40-43, which depend from claim 25, are patentable for at least the reason that Schneier does not disclose the step of using a random key to encode a digital watermark into a carrier signal. Further, Applicant respectfully submits that claim 29 as amended, and claims 33, 35, and 46-48 , which depend from claim 29, are patentable for at least the reason that Schneier does not disclose the step of using a random key to decode a digital watermark from a carrier signal.

Examiner asserts that "On page 67, Schneier talks about encrypting subliminal data into a message using a symmetric key." Schneier discloses a method of hiding a subliminal message in a digital signature that is attached to a message, which is different from the claimed invention:

> Gustavus Simmons invented the concept of a subliminal channel in a conventional digital signature algorithm. <u>Since the subliminal messages are hidden in what looks like normal digital signature, this is a form of obfuscation.</u> Walter see signed innocuous messages pass back and forth, but he completely misses the information being sent over the subliminal channel. ... Signed messages using a digital signature algorithm look no different from signed messages with <u>subliminal messages embedded in the signature.</u>

Schneier at 67 (emphasis added). In deed, the secret communication (i.e. the subliminal message) **is not hidden in the innocuous message, but rather, in the digital signature that is attached to it**. As such, Schneier does not disclose the step of using a random key to encode a digital watermark into a carrier signal. For at least this reason, Applicant respectfully requests the Examiner to withdraw the 103 rejection of claims 25 and 40-43. Similarly, Schneier does not disclose the step of using a random key to decode a digital watermark from a carrier signal. For at least this reason, Applicant respectfully requests the Examiner to withdraw the 103 rejection of claims 29, 33, 35, and 46-48.

b)   <u>**Reliance on Schneier and Braudaway to Reject Dependent Claims**</u>

Examiner rejects claims 26, 27, 30, 31, 34, 36, 37, 44, 45, and 49-61 under 35 USC § 103 as being unpatentable over various combinations of Schneier and/or Braudaway, and sometimes with reliance on additional references. As these claims depend from claims 25 and 29, Applicant submits that these dependent claims are patentable for at least the same reasons that their respective independent claims are patentable (as discussed above). According to the MPEP, "[i]f an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is

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also nonobvious." MPEP 2143.03, quoting <u>In re Fine</u>, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Hence, Applicant respectfully requests the Examiner to withdraw these 103 rejections.

5. **Amendments to Remaining Claims**

Applicant has amended claim 40 to correct a typographical mistake and claims 46-49 to address various 112 issues. All other amendments to the dependent claims are directly merely at correcting the numbering issues caused by the introduction of a second step in each of the independent claims, namely, the step of "providing a carrier signal...." For example, claim 33 has been amended so that step "b)" now reads step "c)" because claim 29, as amended, contains a step b).

6. **Informational Disclosure Statement**

Applicant would like to bring the Examiner's attention to page 2 of the 5 page 1449 which Applicant submitted previously in this case. The copy of the 1449 which was enclosed with the office action dated September 7, 1999, does not contain the Examiner's initials next to Article No. 4, entitled "Principles of Digital Audio." Applicant requests the Examiner to consider this reference, to note his consideration by initialing page 2 of the 1449, and to provide a copy of the initialed form to Applicant.

CONCLUSION

Applicant maintains that this application is in condition for allowance, and such disposition is earnestly solicited. If the Examiner believes that an interview with Applicant's representative, either by telephone or in person, would further prosecution of this application, we would welcome the opportunity for such an interview.

Respectfully submitted,

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Dated: 12/07/99   By: _Floyd B Chapman_

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